

# CLASS COPY

## DNA Extraction Lab

Today you will extract DNA from the cheek, or **buccal**, cells found in the lining of the inside of your mouth. We will get buccal cells by swishing with salt water since this method results in more cells.

### Materials:

- 10 mL 0.9 percent salt water
- disposable plastic cup
- large test tube
- liquid soap
- thin rod
- small clear tube with chilled isopropyl alcohol
- beaker 70% isopropyl alcohol
- Graduated cylinder

### Procedure:

1. Swish and swirl **10 ml** of 0.9 percent salt water in your mouth for 45 seconds. This amount of swishing will actually become quite laborious (hard work)—hang in there!
2. Spit the water into your cup, and pour the water into your this into a large test tube
3. Take the wooden rod and dip it into the soap. **Gently and slowly** stir in the soap to the salt water. Do not be too vigorous while mixing! DNA is a very long molecule. Physical abuse can break it into smaller fragments.
4. Remove the rod and slightly tilt the tube, being careful not to spill. Pour **5 ml** of isopropyl alcohol solution down the side of the tube so that it forms a layer on the top of your soapy solution.
5. Allow tube to stand for 2 minute.
6. Place the thin rod into the test tube where the soap meets the alcohol. Twirl the rod in one direction to wind the DNA strands onto the rod. Be careful to minimize mixing of the ethanol and soapy layers. If the DNA is in fragments it may be too short to wind up, and they may form clumps instead. You can try to scrape these out with the rod.
7. After you have wrapped as much DNA onto the rod as you can, remove the rod and scrape/shake the DNA into a small tube containing the chilled alcohol. Your DNA should stay solid in this solution.
8. Answer the questions below in your science notebook on **page 11** in complete sentences. The title is **DNA Extraction Lab.**

### Lab /Questions:

1. In your own words, in two or three complete sentences, explain what you did in this lab.
2. Why must you be gentle when mixing the saline solution from your mouth with the detergent?
3. Draw a picture of what you observed. Were your results what you expected? Why or why not?
4. Is the DNA you extracted from your cheek the same DNA you would find in your skin cells?  
What about your heart cells?